

CLAIM AMENDMENTS

1. (Currently Amended) A medical probe assembly for ablating tissue, comprising:
an elongated shaft having a deployment member configured to linearly expand in response to being exposed to a first temperature;
an electrode array comprising a plurality of needle electrodes, the electrode array mechanically coupled to the deployment member, wherein the electrode array is configured to be axially displaced in a distal direction and at least one of the needle electrodes is configured to assume an outwardly curved shape when the deployment member linearly expands, and wherein the electrode array is configured to assume a outwardly curved shape in response to being exposed to a second temperature, and narrow to a single pointed tip in response to being exposed to a third temperature less than the second temperature.
2. (Currently Amended) The medical probe assembly of claim 1, wherein the at least one needle electrode is configured to assume the outwardly curved shape in response to being exposed to second temperature equals the first temperature.
3. (Currently Amended) The medical probe assembly of claim 2 1, wherein each of the at least one needle electrodes comprises Nitinol.
4. (Currently Amended) The medical probe assembly of claim 2 1, wherein each of the at least one needle electrodes is bi-metallic.
5. (Currently Amended) The medical probe assembly of claim 2 1, wherein the first temperature is greater than body temperature.

6. (Currently Amended) The medical probe assembly of claim 2 1, wherein the first temperature is equal to a tissue ablation temperature.

7. (Currently Amended) The medical probe assembly of claim 1, wherein each of the at-least-one needle electrodes is configured to assume a substantially straight shape in response to being exposed to a-second the third temperature that is less than the first temperature.

8. (Currently Amended) The medical probe assembly of claim 1, wherein the second third temperature is body temperature.

9. (Previously Presented) The medical probe assembly of claim 1, wherein the deployment member is mechanically coupled between the electrode array and the shaft.

10. (Previously Presented) The medical probe assembly of claim 1, wherein the first temperature is greater than body temperature.

11. (Previously Presented) The medical probe assembly of claim 1, wherein the first temperature is equal to a tissue ablation temperature.

12. (Previously Presented) The medical probe assembly of claim 1, wherein the deployment member comprises Nitinol.

13. (Previously Presented) The medical probe assembly of claim 1, wherein the deployment member comprises a spring.

14. (Original) The medical probe assembly of claim 1, further comprising a cannula having a lumen, wherein the shaft is reciprocatably disposed within the cannula lumen.

15. (Previously Presented) A medical probe assembly for ablating tissue, comprising:
 - an elongated shaft having a proximal end and a distal end; and
 - an electrode array mechanically coupled to the distal end of the shaft, the electrode array configured to assume a outwardly curved shape in response to being exposed to a first temperature, and narrow to a single pointed tip in response to being exposed to a second temperature less than the first temperature.
16. (Original) The medical probe assembly of claim 15, wherein the elongated shaft is rigid.
17. (Original) The medical probe assembly of claim 15, wherein the electrode array is configured to proximally evert when exposed to the first temperature.
18. (Original) The medical probe assembly of claim 15, wherein the electrode array comprises Nitinol.
19. (Original) The medical probe assembly of claim 15, wherein the electrode array is bi-metallic.
20. (Original) The medical probe assembly of claim 15, wherein the first temperature is equal to a tissue ablation temperature, and the second temperature is equal to body temperature.
21. (Previously Presented) The medical probe assembly of claim 15, further comprising a deployment member mechanically coupled between the electrode array and

the shaft, the deployment member configured to linearly expand in response to being exposed to a third temperature that is greater than the second temperature.

22. (Original) The medical probe assembly of claim 21, wherein the third temperature is the same as the first temperature.

23. (Original) The medical probe assembly of claim 21, wherein the third temperature is different from the first temperature.

24. (Original) The medical probe assembly of claim 21, wherein the deployment member comprises Nitinol.

25. (Original) The medical probe assembly of claim 21, wherein the deployment member comprises a spring.

26. (Original) The medical probe assembly of claim 15, further comprising a cannula having a lumen, wherein the shaft is reciprocatably disposed within the cannula lumen.

27. (Original) The medical probe assembly of claim 26, wherein the electrode array is configured to be at least partially retracted into the cannula by displacing the shaft relative to the cannula in a proximal direction.

28. (Previously Presented) A method of treating tissue having a diseased region with a needle electrode array initially formed into a single pointed tip in response to a first temperature, comprising:

introducing the single pointed tip into the tissue adjacent the diseased region, wherein the single pointed tip is used to penetrate the tissue;

forming the electrode array into an outwardly curved array in response to a second temperature greater than the first temperature; and

conveying ablation energy to the electrode array to ablate the diseased region.

29. (Original) The method of claim 28, wherein the ablation energy produces the second temperature.

30. (Original) The method of claim 28, wherein the electrode array is formed into the outwardly curved array further in response to the displacement of the electrode array through the diseased region.

31. (Original) The method of claim 28, wherein the electrode array is displaced through the diseased region in response to a third temperature.

32. (Original) The method of claim 31, wherein the third temperature is the same as the second temperature

33. (Original) The method of claim 31, wherein the third temperature is different from the second temperature.

34. (Original) The method of claim 28, further comprising forming the electrode array into a proximally everted array in response to the second temperature.

35. (Original) The method of claim 28, further comprising forming the needle electrode array into the single pointed tip again in response to the first temperature, and introducing the single pointed tip into another portion of the tissue.

36. (Original) The method of claim 28, wherein the diseased region is a tumor.